

1 **Abstract of the Disclosure**

2 An apparatus and method for determining the biological amplitude and frequency
3 windows of magnetic fields. The method for determining the biological window for the field
4 metrics of a magnetic field is described with particular reference to a chemical system and
5 method using myosin light chain kinase, calmodulin, and magnetic fields. The process is
6 designed to calculate and measure the number of radioactive events (i.e., Cherenkov emissions)
7 of a specimen or sample wherein such events are indicative of the relative biological
8 effectiveness as will be described herein below.

9 A method for determining a biological window of a magnetic field comprising the steps
10 of preparing a reaction solution containing at least the following components: MLC, MLCK,
11 calmodulin, calcium ions, and radiolabeled ATP, and exposing the reaction solution to a
12 magnetic field; removing the reaction mixture from the magnetic field and forming a specimen
13 by placing a quantity of the solution onto a substrate; washing the specimen; placing the washed
14 specimen in a suspension liquid and counting the number of radioactive events over a given time
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